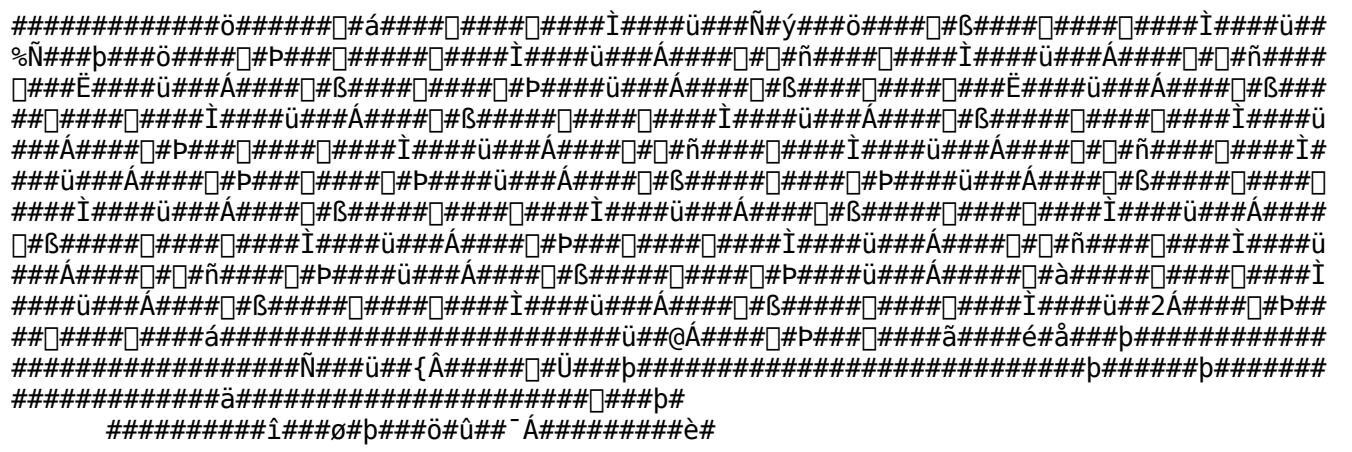

```
#################,#######################ÿ¥#ÿÿ#d#########d########L#□###ûmöª##
      Vÿÿ# ##ÿÿ####@ÿ¥#ÿÿ#d#########d###########hIs A Stochastic Approach Needed?
Deterministic Versus ProbabilisticVariable ÒQualityÓ In Aging Aircraft#
```

#################,#########################ÿ¥#ÿÿ#d#########d########L#□###û□öª#3
      Vÿÿ####ÿÿ####@ÿ¥#ÿÿ#d#########d############a0 and aNDE - 95% Confident That POD(a) > 0.9Inspect At Half Time To Grow To CriticalTracking Accounts For Deviations From Expected UsageConservative Crack Growth BehaviorEnvironmental SeverityConservative BoundFracture ToughnessConservative ValuesVerified By Test#

```
#################,#########################ÿ¥#ÿÿ#d#########d########L#□###ûmöª##
      Vÿÿ# ##ÿÿ####@ÿ¥#ÿÿ#d#########d###########_Driven By Flaw SizesNeed a
Stochastic Model of  How The Flaw Size Distribution Changes In Timep#
```

#ÿ¥#ÿÿ#d#########d########L#□###ûmöª##ÿ□ÿÿ#$##ÿÿ####@ÿ¥#ÿÿ#d#########d###########2
Tracks The Overall Crack Size Distribution In Time#

```
#################,#########################ÿ¥#ÿÿ#d#########d########L#□###ûmöª##
      Vÿÿ####ÿÿ####@ÿÐ#ÿÿ#d#########d###########XComputer SimulationGood Accuracy
High Computing RequirementsEspecially For Rare Events#
```

```
#################,#########################ÿ¥#ÿÿ#d#########d########L#□###ûmöª##
      Vÿÿ# ##ÿÿ####@ÿ¥#ÿÿ#d#########d###########JImportance Sampling Monte Carlo
Use FORM/SORM To Guide Importance Sampling#
```

```
#################,#########################ÿ¥#ÿÿ#d#########d########L#□###ûmöª##
      Vÿÿ# ##ÿÿ####@ÿ¥#ÿÿ#d#########d###########¢Numerical Integration Using Up To
Three Random VariablesFast Since Crack Growth Calculations Are Not Required
Additional Assumptions Required For The Macro Model#
```

```
###0#########0###,#############0#########0#ÿ¥#ÿÿ#d#########d########L#□###ûmöª##
      Vÿÿ# ##ÿÿ####@ÿ¥#ÿÿ#d#########d###########fPoor Precision - I.e. Wide
Confidence BoundsSmall Probabilities Are Best Used In Comparative Analyses#
```

###
#########
###,#############
#########
#ÿ¥#ÿÿ#d#########d########L#□###ûmöª##
Vÿÿ####ÿÿ####@ÿÐ#ÿÿ#d#########d###########□Windows BasedInputData Files Parameter ValuesOutputSummary FileFracture Probability Plot FileCrack Size Distribution Files (Before and After Inspections)##

#################,#########################ÿ¥#ÿÿ#d#########d########L#￿###ûmöª##
      Vÿÿ####ÿÿ####@ÿÐ#ÿÿ#d#########d############Defined Population of Structural DetailsDTA Has Been PerformedAnticipated Stress SequenceFracture Mechanics Data Quantified Inspection CapabilityInitiating Crack Size DistributionInspections Equivalent Initial Flaw SizesTime to Crack Initiation DistributionÍ#

```
#################,########################ÿ¥#ÿÿ#d#########d########L#␦###ûmöª##
      Vÿÿ# ##ÿÿ####@ÿ¥#ÿÿ#d#########d###########␦Single Geometry (Including Crack
Type and Shape)Irwin Abrupt Fracture CriterionMultiple Sites Per AircraftFleet
SizeVariable Inspection Intervals##
```

```
#################,########################ÿ¥#ÿÿ#d#########d########L#□###ûmöª##
      Vÿÿ####ÿÿ####@ÿÐ#ÿÿ#d#########d###########□Intermediate Output For Changed
ConditionsCorrosive ThinningOversizing HolesChanging UsageCombine Runs For More
Complex ScenariosWidespread Fatigue Damage##
```